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**Teacher Education And  
Contemporary Technology**

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**Abstract**

This article intends to present the result of some teacher's work at the college education in a university in the South of Brazil. We are going to show how the work with new technologies was effective in spreading knowledge and even in allowing the interaction with groups. We are going to draw a brief profile about the teacher's college education in Brazil, discuss different technologies such as the virtual learning environment (Moodle), Cmap tools, blogs and Facebook, and finally, we are going to talk about the importance of teachers training to work with technologies that are constantly being updated.

**Keywords:** New technologies; Teacher education; Teacher training.

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## 1. Introduction

I'm a great believer that any tool that enhances communication has profound effects in terms of how people can learn from each other, and how they can achieve the kind of freedoms that they're interested in.

Bill Gates

This analysis is a result of the lived experience of four professors who act training future teachers to teach in Basic Education and its goal is to discuss and present activities that were performed in the subjects Education and Technology, English and English Literature at the Linguistics Course from a Brazilian University in Curitiba, Paraná. It is a qualitative and quantitative research done in the first semester of 2011.

As professors we recognize the impact in the pedagogical practices that comes from the contemporary technological expansion and that the written, reading, comprehension practice and the teaching and learning process were also changed by this new scenery. Thus, we understand that the teaching process became more complex and compromising, because the current technology allows ubiquity in the academic education; place and time are sparse and it is necessary to have new ways of teaching and learning; the interaction process between teacher/student and student/student are not restricted to predetermined schedules and places.

This analysis of the professors' experience is organized in three different stages: first, some theoretical references, in which we intend to show a brief history of the teacher education in Brazil; second, we discuss contemporary technologies and their practices and finally, we have some considerations about training professors and teachers to work with contemporary technology.

## 2. The Higher Education Professor in Brazil

To talk about teaching in Brazil we have to remember that we are a country that bears a late breakthrough in college education; we have in our culture the Jesuit philosophy, after all, they were our first teachers. We must also have in mind that the scientific research in Brazil started in the 1930's with the beginning of CAPES (Coordenação de Aperfeiçoamento de Pessoal de Ensino Superior), an agency that helps Brazilian students with their researches across the country. These are some features that were responsible for the making of the Brazilian teachers' profile and their national identity. Our intention, therefore, is to scan the professor's specific training; in other words, we are going to analyze how the professionals who work in the universities and train future teachers to work with the Basic Education are prepared.

The university educational practice or the teaching in a university is related to the conditions of the society that suggest different ideas about human beings and the society itself; consequently, we have different elements and assumptions about the role of the university and about the teaching and learning process. In other words, the way professors accomplish their educational actions are related, directly or indirectly, to these academic elements and assumptions. Therefore, it is important to say that the knowledge about reality and about its contradictions and its different understandings motivate changes in the educational and social paradigms, because it allows the professional tasks with more quality, parameter and planning.

For these reasons, Cunha (2006, p. 258) says that:

The performed analyses about professors in the universities make us think systematically about the teaching profession at this level of education, about the professor knowledge and skills and about the innovations that take place in the academic places. These concerns intend to help the understanding of the professor's pedagogical practice and advance a specialized knowledge about their profession.

Therefore, the teacher is a professional who, in order to develop his teaching skills, needs to be always looking for innovations to enlarge the possibilities in the teaching and learning process.

College education in Brazil has in its cadre of professionals, professors from different areas; they know the environment because they are academics or managers who are studying basic or specific subjects related to their profession. In some cases, these professionals do not have in their curriculum any specific subjects like didactics, developmental psychology, curriculum, history of education and other subjects that help building a theoretical and/or scientific basis for teaching education, and, consequently, provide them with a pedagogical basis. As Anastasiou and Pimenta (2005, p. 35) say, "How do professors identify themselves professionally? [As a] physician, a lawyer, a doctor, a geographer, an engineer [...]".

According to this scenery, professionals from different areas become professors. Through continuous studies these professors try to develop their teaching skills by taking post-graduate courses. Some of them do that on their own initiatives; some of them because the institutions where they work offer a career planning, although there is not, by now, a national project for the improvement of higher education professionals. This lack of specific teacher education programs seems to be even more critical when we have to face new technologies and the different ways of using them in class. Most professors graduated in a time when there were not any blogs, software, computers or other technological tools in their educational environment.

Considering this information, we believe professors are professionals who own a specific knowledge. They need to take consistent actions to make their students intensely take part in classes, in order to try to avoid the traditional way of just transmitting knowledge. We understand that college education is active and proactive. Therefore, we must consider the influence of the new settings that the virtual learning environments as well as the technological resources impose daily to professors.

Under these terms, teaching is the result of the construction and deconstruction of concepts, values and experiences that respect the fact that the world is not limited to a determined and controlled space anymore. The development of communication and computerization technologies has changed the world into a place with no boundaries. The professor who is not able to face this new planetary organization runs the risk of being overcome by the history, being defeated by the new geopolitical reality and by the education beyond the classroom.

We believe that higher education teaching is something challenging, creative and scientific. Having its basis on science and on science criticism – fields of study that have been largely used in the academy – it tries to promote a new appropriate knowledge to a specific time and place.

### 3. Contemporary Technologies and Practical Perspectives

We witness different times and they bring us some changes: overcoming paradigms has become a permanent proposal. Technologies allow the contemporary society to enjoy new possibilities of production and socialization of knowledge. According to Kenski (2007, p.11), "I turn on my computer and immediately I access the internet. I get in my university address in the virtual world. A screen stands before my eyes."

When we talk about the use of technologies at the educational environment, we are getting closer to other pedagogical practice perspectives, using the technological tools to help in the teaching process,

facilitating the access to information and to the systematized knowledge. It is interesting to try to understand that the technological advances are work tools for teachers and that the ghost that used to haunt us with the idea that the machines would get the teacher's place is now in the past.

As the aim of the technological tools is diversified, in this stage of the research we are going to talk only about the tools that are used by the professors in the institution in focus in this article. They are: virtual learning environment (Moodle), Cmap tools, blogs and Facebook.

The virtual learning environments are prepared to receive and send information from distance places through technological systems. Nowadays, we can find these virtual learning environments in educational institutes that have noticed the power of the technological resources to students after being in the classroom. They allow the use of pedagogical strategies related to teaching and learning skills, and help students to overcome barriers related to time and place in an easier way. The virtual learning environments are organized in a way that allows students to open their minds. According to Almeida (2003, p. 119) "These environments can be used in online distance education systems; supporting the activities that are done in the classroom, spreading the interaction between students beyond classroom's time and place."

The virtual learning environment from the university that we are analyzing here is organized to cooperate facilitating the learning process, attending requirements from the actors that use the place. The tools must be adequate, according to the needs and requests from a specific moment. Almeida (2003, p. 119) states that "The virtual learning environments' resources are basically the same we have on the internet (mail, forum, chat, conference, resources center, etc)." The virtual learning environment is available on the web and it can be accessed by the students from everywhere, allowing professors to have activities with their students even when they are not at the premises.

The use of Moodle in our institution has proved to be an effective tool to be used in virtual classrooms and forums. In distance learning, students participate by asking and answering questions concerning themes proposed by the professor. In real time, the professor talks to the students, motivating them to enlarge and/or deepen their research. In the Forum, the questions are posted in advance, and the students post their replies. Besides reading the answers, the tutors map them, and make some statistics in order to improve the use of the tool.

The tool maps technique was developed by Joseph Novak and his team in the 70's, after working research with children. Novak's employees tried to search the learning applicability of Ausubel and Vygotsky's theories. The tool maps technique comes up from the necessity of organizing all the collected information. As a consequence, we have what we know today as Cmap Tools. They are a teaching and learning tool that helps the student to learn in a meaningful and reflexive way; it stimulates the student, who acts and reacts, in a rediscovery process. It is considered a pedagogical visual resource that activates and motivates those who learn better through vision. To work and to learn from a Cmap tool, reading comprehension is mandatory. By using the tool, it is possible to share ideas, organize knowledge, act and react before, and thus develop independence.

Novak (2003) defines Cmap tools as a tool to organize and represent knowledge. This meaningful material helps studying and learning; it also promotes cognition and social interaction. To create a cmap tool one needs to read the material, to choose main concepts, to use arrows, ramifications, key-words and links.

To share information, ideas and discoveries with other professors and to be updated in their area, the professor needs to be "websocially" added on the web and have to access the so-called cyberculture world that, according to Levy (1999, p.17), is "a set of techniques (material and intellectual), practice, attitudes, ways of thoughts and values that develop with the cyberspace growth."

Years ago it was necessary to be in lectures, seminars and events to know people that could contribute with news relating to the improvement of our classes. Nowadays it is possible to know what happens all

around the world in real time in cyberspace. The Social networking is a good example: through Facebook, professors from the university that we are analyzing here have coworkers' groups that share the same interests and that keep them updated about everything that is new concerning the web pedagogical tools that can be used in the classroom.

One of these tools that are really useful to the contemporary pedagogical practice is what we call blog. Even though it was not created as a teaching/learning resource, it has been used by professors, teachers and students from different areas and institutions as a complement of their classes. Through this resource, professors from the university mentioned here publish their own articles and post materials written by different people about the themes that have been – or are going to be – discussed with their students. Professors of English also use blogs as a digital journal to motivate their students to practice writing. These materials can become articles and they can be published in academic journals.

#### 4. Conclusion

Let us turn now to some final remarks. For a long time, we have been searching for innovative ways of meeting the needs of our students. We have noticed that their performance and their interest have improved after we started using the new technologies mentioned above. Interdisciplinary studies and the integration of contents have been greatly stimulated, and there is no doubt that the new technologies play a crucial role in this process.

Our institution stimulates the use of technologies. Professors, students and people in general can access everything that is produced by the university which, on its turn, fulfills its social function, stimulating research and sharing knowledge. (10 pt) Here introduce the paper, and put a nomenclature if necessary, in a box with the same font size as the rest of the paper. The paragraphs continue from here and are only separated by headings, subheadings, images and formulae. The section headings are arranged by numbers, bold and 10 pt. Here follows further instructions for authors.

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